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Suggessions for Organizing a Testing Program in Grades K Through 9

Bruce D. Knicley

SUGGESTIONS FOR ORGANIZING A MENTAL TESTING PROGRAM IN GRADES K THROUGH 9

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CHAPTER I

PURPOSES FOR A TESTING PROGRAM

In the development of a testing program there must be specific purposes or a program can not be properly put into effect. Every test which is used should be administered for a specific purpose which is clear to those who are involved in the testing experiences, those administering and interpreting the test, and those taking the test. Naturally, the more mature the student, the better he will understand the reasons for his taking the test, but even the least mature child should be helped, on his own level, to understand as best as he can why he is being tested.[1]

To set up a standardized program would not be possible because of the various situations that are found in the school systems. Essentially, a basic testing program provides the information which the faculty can use and is capable of using to improve the complete educational program. With this idea in mind the writer will suggest four basic purposes to include in a program for testing in grades K through 9.

The first important area of testing is for the purpose of improving the instructional program of the school. The school's prime reason for gathering additional information about the students is to aid

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[1]Two papers which support the idea that the pupil should understand the reason for testing before taking the test are cited here:

Edward S. Bordin and Ray H. Bixler, "Test Selection: A Process of Counseling," Educational and Psychological Measurement, 6 (No. 3): 361-374, Autumn, 1946.

Julius Seeman, "A Study of Client Self-Selection of Tests in Vocational Counseling," Educational and Psychological Measurement, 8 (No. 3): 327-346, Autumn, 1948.

in planning the class work and in the evaluation of the teaching that is being done in the classroom. This aspect will be fulfilled only if the teacher believes in differentiating instruction. But, if he believes in keeping the same method, techniques, and goals for all the classes, then the information that is provided by the testing process will be of no value to the teacher. However, if he does believe in the idea that methods, techniques, and goals should vary with the individual child, then a testing program can be very helpful.

The second purpose of a testing program is to aid or facilitate the revision of the curriculum that is in force at the present time. If the faculty members have a better insight into the ability of the students, they can plan a better scope and sequence in order to aid the students at the various levels of ability. But, it should be noted that a testing program alone is not the prime reason or sufficient reason to go into a complete revision of the curriculum that is being used at the present time. The test expert will not be adequately acquainted with the local situation to construct a test or series of tests which will properly measure all of the objectives of the school system.[2]

The third purpose in connection with the objectives of a testing program is that of educational and vocational counseling. This facet of testing is important in the lower grades, but is is usually connected with a program that is found in a system that goes beyond the ninth grade. This purpose does not need as much attention since, too often,

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[2]James W. Costar and Carl M. Horn, "Let's Look at Our Testing Program," Professional Series Bulletin No. 40, (East Lansing, Michigan: Bureau of Educational Research, College of Education, Michigan State University, 1959).

the testing program has been totally associated with counseling at the expense of the instructor and the administrator. This is a very important purpose, but it is by no means the only reason for giving tests in the testing program.

The fourth and last objective of a testing program is for the benefit of the administrative staff. It can be used, with additional information, to appraise the complete educational program of the school. Testing, when used by itself, is not a complete evaluation instrument. Tests can help in giving the administrative staff a more realistic picture or judgment of the extent which the total school is or is not fulfilling its educational purposes. But, the administrators should never use the tests to evaluate the teaching effectiveness of the staff members.

In the final summation of the objectives or purposes of a testing program in grades K through 9, one must agree to the fact that this is an important part of a school program and should not be overlooked. Tests provide teachers with information about the group they are working with. Intelligence and standardized tests, systematically and intelligently used, can do much to improve teacher insight into group and individual needs. Factors concerning readiness for academic work, intelligence, achievement, and personality, used properly with other materials, are of great value in the task of helping children fulfill their needs. Tests are an important tool in the planning of effective and realistic learning activities, which are basic to any good learning

climate in the classroom.[3] Also, it must be remembered that tests are often used for the purpose of uncovering latent abilities which have not yet been recognized in young people for suggesting areas of effort which might be very productive, but which have never been attempted. In this case, the use of tests is therefore not a negative proposition, as some people believe, but a fact finding procedure.[4]

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[3]Ruth Martinson and Harry Smallenburg, Guidance in Elementary Schools (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1958), p. 126.

[4]Charles R. Foster, Guidance For Today's Schools (Chicago: Ginn and Company, 1957), p. 287.

CHAPTER II

SUGGESTED GUIDES FOR THE DEVELOPMENT OF THE TESTING PROGRAM

In the suggestion for the selection of the proper test that is to be administered, there are a few questions that should be answered. Ohlsen[5] recommends such items as: What information is needed? Who will use the information? How will it be used?

The first item of consideration is what information is needed and desired by the staff and administration. It will be necessary to know the test scores that are already a part of the student's cumulative record. A group representing instruction, personnel, curriculum, and administration should form a committee to determine what is needed at certain grade levels. This group or committee should decide or determine the information that a particular grade level will want to find out in accordance with spelling achievement, mathematics, and other subject areas. Once this has been described, the first step is complete.

The second step or item that must be placed under consideration is who will use the information. As an example, let us consider one of the tests that will be given and see how it can be used by different people. We will consider the intelligence test. The administrator may use this test to get an over-all picture of the nature of the school

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[5]Merle M. Ohlsen, Guidance (New York: Harcourt, Brace and Company, 1955).

population. At the same time, the test may provide the curriculum specialist with hints as to the kind of program which would be more appropriate. The counselor may use the intelligence test, which, when interpreted to the child and his parents, will be useful in making a vocational decision. The last person, but not the least in the "who" department, is that of the usefulness of the data to the teacher. This information will aid the teacher in the proper selection and method in dealing with or instructing the individual child.

The third item is to designate specifically how the information is to be used. Will other tests be used in the program if a child is found to have deviated a great deal from the average in the class in reading ability? This is a question that should be answered with a positive solution. If not, the information that has been gathered will be a waste of time and an expense to the school system. Also, if the tests point out a student with high ability, will the counselor or teacher provide information in regard to the scholarships that are available for such excellence? Here again the answer to this question should be a definite answer in the direction of aiding the student. It is unwise and wasteful to proceed with a testing program in the vague hope that somehow the obtained information might be used in the future to the advantage of the student. Many times the tests are recorded in the cumulative folder of the individual student and then forgotten. This is the case that prevails more than most people believe or want to believe. If so, it is a great waste of time, money, and instructional time on the part of the teacher and the school district.

In summation of the development of the testing program, many points must be brought to the attention of the people involved in the testing program. It may be necessary to consult a specialist in the augmentation of a testing program. If so, several areas may be considered if this step is necessary. A specialist will need to know some of the following information about the school system as explained by Ohlsen:

- What questions does the staff hope to answer with this test?
- What are the educational and cultural backgrounds of the pupils?
- What test scores are already a part of these pupils' cumulative record?
- What other information can the school make available to the staff to supplement these test scores? Is this sufficient? Should the staff collect other information before using the tests?
- How much time is the staff willing to have the pupils spend in this testing experience?
- For how long a period can these pupils work at a high efficiency level?
- How much money can the school spend on tests?
- What experience and training has the staff had in administering and interpreting tests like this one? What additional training, if any, will the staff need?[6]

Guided by the answers to these questions and the other aspects of the development of a testing program, a school system may organize a sound program. This process is likely to be most useful if it is followed and faithfully used.

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[6] Ibid., pp. 176-181.

CHAPTER III

SUGGESTED GUIDES FOR THE SELECTION OF TESTS

The selection of tests for the testing program may be the responsibility of a committee or may be the duty of the administrator or counselor. An efficient method would be to gain the support of all members of the staff and other personnel that might come in contact with the test results, directly or indirectly. Some of the factors that are involved in test selection will be considered in the following discussion.

It must be remembered that there is no one test for all pupils in all schools. Test selection should be made on the basis of what is best for a particular group of students at a particular situation. Traxler[7] suggests that the first principle in selecting a test should be to secure a statement of the school's objectives or philosophy. Therefore, tests can be chosen which measure the progress of the pupils toward achieving the objectives set forth. Then the testing program may be adapted to the particular needs of the pupils.

Tests should be selected that have a high validity and reliability. The validity of a test refers to the extent or idea that a test measures what it purports or intends to measure. As an example, does an achievement test really measure achievement or does it measure person-

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[7]Arthur E. Traxler, Techniques in Guidance (New York: Harper & Brothers, 1945), pp. 155-156.

ality or interest? There are two types of validity that need to be discussed. Curricular validity and statistical validity are worthy of consideration. Curricular validity is in reference to the extent to which the content or context of the test is truly representative of the content of the course, book or whatever is to be evaluated or measured. For example, in a mathematics test if the test included examples or inverse proportion, it must be taught in the course of study. Statistical validity refers to the degree to which a test correlates with some objective chosen as an acceptable measure of the thing or trait in question. As an example, if a student has a high achievement test score and high grades in a particular area then it can be considered to have statistical validity.[8]

The reliability of a test refers to the extent that a test measures consistently from one administration of the test to another. The common methods for determining the reliability are the test-retest and the split-half methods. In the retest method it is necessary to test and then after a lapse of two or more weeks to retest to determine the reliability coefficient. If the correlation is high, the reliability of the test is said to be high. The split-half method of correlation is determined by comparing half of the items on a test with the other half of the items on the same test. The common method that is used is the correlation of the odd against the even items. If the correlation of odds against evens is high, the reliability is said to be high.

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[8]Roy DeVerle Willey and Dean D. Andrew, Modern Methods and Techniques in Guidance (New York: Harper and Brothers, 1955), pp. 153-154.

If tests are not selected carefully, it is necessary that they meet the standards of validity and reliability. The determinant as to the amount of validity and reliability is the area being tested and for what the use of the test is to be. Generally speaking, tests of intelligence and achievement should have a validity coefficient between .40 to .50, and reliability coefficient around .90. These general recommendations apply to group as well as individual testing programs.

A third area for the selection of tests is that of the usability of the test. Ross[9] uses the term "usability" to mean practicability and suggests a few ideas that need to be considered. Among them are ease of administration. This means that the instructions for administration and the clarity of instruction should be reviewed for the student and tester alike. Tests that can be easily and objectively scored should be selected if possible. At present the trend is toward the use of machine scoring answer sheets so that the scores may be obtained in a short period of time.

An additional point that should be considered in the usability of tests refers to the ease of application and interpretation of the test scores. The norms, if available, must be made applicable to the test itself. If norms are not available, the application and interpretation will be rather limited.

Cost and the mechanical characteristic of the test should be noted in the final appraisal of the selection of a test. Cost should not be the only factor because a test costing 20 cents may be more valuable

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[9]C. C. Ross, Measurement in Today's Schools, revised by Julian C. Stanley (New York: Prentice-Hall, Inc., 1945), pp. 127-131.

students are going to be in school for the rest of the school term. Another reason for fall testing is the fact that our society is becoming more mobile each year and tests that are given in the fall can be used when the student is in the school system. If the program is initiated in the spring, a student may spend six months in school, and the teacher may not have any measure with which to help or direct the student. This is very much the case in suburban areas of large metropolitan centers.

Spring testing advocates feel it necessary to test during this time in order to group or place students for the next school term. Also, some people contend that the tests that are administered during this period give an insight to what knowledge the student has gained or learned during the present year. This argument may be repudiated due to the fact that some teachers actually teach the contents of the test to insure the idea that each student in their class has learned and shown improvement. This method is strictly against the idea or the purpose of a testing program.

In the final analysis of the two suggested times of the school year, the feeling of the writer is that the best time to administer the various tests is during the fall of the year.

In the final summation of the suggestions for a basic testing program one must remember that a variety of techniques are necessary to collect vital information that is necessary for effective guidance, teaching, and learning. Testing is only one of these techniques. Therefore, it is necessary to have trained personnel to interpret the information once the information has been gathered before the data can be of any use to a school system. Many arguments for the use of tests

CHAPTER V

LIMITATIONS AND OBSTACLES

The testing program of a school has certain limitations just as that of the athletic department, music department, and other areas of the curriculum. The restrictions on the area of testing may be more restrictive because of the fact that the true value of the testing program may not be known by both the teacher and the administrator. It seems as if personnel, finance, and proper use would be the order to discuss the obstacles of the testing program.

Personnel to administer the tests, record the tests, and see that all the information is used is the first obstacle to be crossed. It takes a trained specialist in testing to get the full value from tests that have been given. This means an additional member would have to be added to the faculty. Many administrators feel that if an additional member is added, it should be added to help relieve the over-loaded teaching members of the staff. In most cases, the board of education would agree with the administrative staff. So, the proper personnel to aid in the development of the testing program would be forgotten, and the extra staff member would be in a teaching role and not a test specialist. The second alternative would be to train or give special aid to a member of the present faculty to give the individual additional knowledge of tests and testing procedure. This seems to be the most common method that is being used.

Finance is the second limitation that is usually placed on a testing program. Once again the expense of a trained specialist enters the picture. The additional funds could be used, and are in many cases, to add teaching faculty. It seems that in many school systems more emphasis is placed on the local school gladiators than is placed on the value of a sound objective educational program.

The last obstacle is the actual use of the tests that are being given in the various school systems. It has been the experience of the writer to find many tests given over a school term and then filed, recorded, and put to no use whatsoever. This is truly a misuse of the intent of the test. Many times a definite pattern of scoring, recording, and testing does not exist. Also, the number of teachers who know how to use the information that has been derived through the test is very few.

In conclusion, it is the feeling of the writer that additional clerical help is needed to aid the teachers in a good testing program. One must remember that a teacher can only do a certain amount of work in a given period. To ask more of the teacher in the performance of extracurricular activities tends to lessen the efficiency with which the regular duties would ordinarily be executed. If this is the case, the teacher would not be doing the best job; therefore, it would be more advantageous for the school system to employ clerical help in the area of testing.

APPENDIXES

APPENDIX A

DEARBORN, MICHIGAN TESTING PROGRAM

PRIMARY GRADES

Grade	Test	Date
Kdgn. A	Metropolitan Readiness, Form R	June 4 - 8
Jr. Primary	Monroe Reading Aptitude (Optional)	3rd week of semester
Jr. Primary	Metropolitan Achievement, Primary I Battery, Form T, Reading Level 6-7 (Numbers Test Optional)	May 21 - 29
2B-A	Metropolitan Achievement, Primary II Battery, Form T, (2B Numbers Test Optional)	May 21 - 29

ELEMENTARY AND JUNIOR HIGH GRADES

3B	Metropolitan Achievement, Elementary Battery, Form U, Time: 50 minutes	May 18 - 25
3A-4A	Iowa Every-Pupil Test of Silent Reading Comprehension, Elementary Test A, Form M, Time: 50 minutes	April 16 - 20
3A-4A	Iowa Every-Pupil Test of Basic Arithmetic Skills, Elementary, Test D, Form N, Time: 65 minutes	April 18 - 27
3A-4A	Iowa Every-Pupil Test of Work Study Skills, Elementary, Test B, Form M, Time: 55 minutes (Grades 3A will substitute Dearborn Map Reading, Skills for Iowa Study Skills, Part I)	April 25 - May 8
5B-9A*	Iowa Every-Pupil Test of Silent Reading Comprehension, Advanced, Test A, Form M, Time: 85 minutes	April 16 - 20
5B-9A*	Iowa Every-Pupil Test of Basic Arithmetic Skills, Advanced Test D, Form P, Time: 80 minutes	April 18 - 27

*designates machine scorable test edition.

Grade	Test	Date
5B-9A*	Iowa Every-Pupil Test of Work Study Skills, Advanced Test B, Form M, Time: 90 minutes	April 25 - May 8
1-9	OTHER TESTS YOU DEEM NECESSARY	
	FALL SURVEY	
4B-6A*	Calvert Science Information Test, Elementary, Form A, Time: Part I, Living Things, 35 minutes; Part II, Physical World, 25 minutes	Sept. 17 - 28
7B-9A*	Cooperative Science Test, Form Y, Time: 80 minutes	Sept. 17 - 28

* designates machine scorable test edition[15]

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[15]Harold F. Cottingham, Guidance in Elementary Schools (Bloomington, Illinois: McKnight and McKnight Publishing Company, 1956), p. 30.

APPENDIX B

LORAIN, OHIO TESTING PROGRAM

MENTAL ABILITY

California Test of Mental Maturity - Primary, Grades 1-3
Elementary, Grades 4-8

SRA Test of Primary Mental Abilities - Ages 7-11, Grades 3-7
Ages 11-17, Grades 8-10

READING ACHIEVEMENT

Metropolitan Reading Achievement - Elementary, Grades 3-4
Intermediate, Grades 5-6
Advanced, Grades 7-8

Iowa Silent Reading Test - Elementary, Grades 4-8

Stanford Reading Achievement - Advanced, Grades 7-9

ARITHMETIC ACHIEVEMENT

Iowa Every-Pupil Test in Arithmetic - Elementary, Grades 3-5
Intermediate, Grades 5-6
Advanced, Grades 5-8

Metropolitan Arithmetic Test - Elementary, Grades 3-5
Intermediate, Grades 5-6
Advanced, Grades 7-9

PERSONALITY

Rogers Test of Personal Adjustment - Grades 4-8[16]

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[16] Ibid., p. 31.

APPENDIX C

CARLINVILLE, ILLINOIS TESTING PROGRAM

Name of Test	Grade Administered
California Short Form Test of Mental Maturity (pre-Primary)	1
California Achievement Battery (Reading, Language, Arithmetic)	2
California Short Form Test of Mental Maturity (Primary)	3
California Achievement Battery (Reading, Language, Arithmetic)	3
*Gates Reading Test	1, 2 & 3
*Iowa Silent Reading Test	4, 5 & 6
California Achievement Battery (Reading, Language, Arithmetic)	4 & 5
California Short Form Test of Mental Maturity (Junior High)	6
California Achievement Battery (Reading, Language, Arithmetic)	6
Differential Aptitude Test (Verbal, numerical)	8
California Achievement Battery (Reading, Language, Arithmetic)	8
Algebra Aptitude Test	8
Differential Aptitude Test (Mech. Space, Lang., Abst. Reas., Cler. Spd., and Accuracy)	9
SRA Problem Check List	9
Plane Geometry Aptitude Test	9

*These tests are given as a part of the elementary school reading program which is patterned after the Joplin plan.[17]

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[17]This information was taken from a bulletin issued by the Carlinville, Illinois school system.

APPENDIX D

EASTERN ILLINOIS UNIVERSITY TRAINING SCHOOL TESTING PROGRAM

Test	Grade Administered
California Mental Maturity Short Form 1957	1
California Mental Maturity Short Form 1957	3, 5, 7
Iowa Basic Skills (Achievement)	3,4,5,6,7,8,9
Gates Primary Reading Test	1, 2, 3

Other Tests

Mooney Problem Check List

California Test of Personality[18]

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[18] This is a brief outline of the tests that are administered at the training school in Charleston, Illinois.

APPENDIX E

GROUP TESTS THAT ARE AVAILABLE FOR MENTAL TESTING

GROUP TESTS

1. American Council on Educational Psychological Examination for High School Students. (L. L. Thurstone and Thelma Gwinn Thurstone) Educational Testing Service, new forms issued annually since 1933. Sixty-five minutes are required for testing. The authors designed this group test for grades 9 through 12.

2. California Test of Mental Maturity. (Elizabeth T. Sullivan, Willis W. Clark, and Ernest W. Tiegs) California Test Bureau, 1936 (revised in 1951). Time required for this group test is 90 minutes; however, the language section and non-language sections can be administered independently in two 45 minute periods. From these two sections, one also may obtain scores on five factors, detailed below. The different forms of this test provide measures for grades K-1, 1-3, 4-8, 7-10, and 9-adult. Furthermore, these same authors devised the California Short-Form Test of Mental Ability in response to the demand for a one-period form of the test described here.

3. Chicago Tests of Primary Mental Abilities, separate-booklet edition. (L. L. Thurstone and Thelma Gwinn Thurstone) Science Research Associates, 1938-1941. This group test, designed for ages 11-17, requires 4 hours for testing.

4. Kuhlmann-Finch Intelligence Tests. (F. H. Finch) Educational Test Bureau, 1953. This series includes eight group tests, with no duplication of content. There is one test for each of the elementary grades, one for junior high school level, and one for senior high school level. Working time for each test is 25 minutes, except for the senior high school level, where 30 minutes is specified.

5. Ohio State University Psychological Test, Form 21 (Herbert A. Toops) Science Research Associates, 1941. While the author indicates that 120 minutes should be allowed for administering this group test, he points out that the test is primarily a power test and not a speed test, since students have time to attempt all the 150 items. The author designed the test for high school students, college students, and adults.

6. Otis Self-Administering Test of Mental Ability. (Arthur S. Otis) World Book Company, 1922. The time required to take this group test varies with the maturity of the group. Normall 30 minutes should be allowed for testing; however, 20 minutes is usually sufficient for more mature groups. The author designed the test for grades 4-9, 9-12, college and adult. With older college students and superior adults, this test does not have enough "ceiling" to discriminate among upper ability levels.

7. Terman-McNemar Test of Mental Ability. (L. M. Terman and Quinn McNemar) World Book Company, 1941, revised in 1949. While the authors allow approximately 40 minutes for the test, this limit is sufficiently generous to make the test a power test rather than a speed test. The test was designed for grades 7-12. Careful research over a period of time in developing a scholastic aptitude test caused the authors to eliminate arithmetical and numerical sub-tests. What they have now is a measure of verbal ability.

INDIVIDUAL TESTS

8. Revised Stanford-Binet Scale. (L. M. Terman and M. A. Merrill) The Psychological Corporation, 1937. Usually the test can be administered in an hour. The time required for a test, however, varies considerably from one individual to another. While the test was originally designed for children, it is used for subjects 2 years old to adult.

9. Wechsler-Bellevue Intelligence Scale. (David Wechsler) The Psychological Corporation, 1939, 1947. The time required to administer this individual test varies from 45 to 60 minutes. It is for ages 10-70.

10. Wechsler Intelligence Scale for Children. (David Wechsler) The Psychological Corporation, 1949. It takes approximately an hour to administer this individual test to a child. The test is for ages 5-15. It is a downward extension of the Wechsler-Bellevue, containing ten tests and two alternative tests. A counselor can derive a seperate IQ for the verbal and performance scales as well as for the full scale. Instead of providing a table for deriving MA's, as do most authors of tests, Wechsler offers a table for obtaining IQ's for each age level.

APPENDIX F

ACHIEVEMENT TESTS

ACHIEVEMENT TESTS

1. California Achievement Test Batteries. (E. W. Tiegs and W. W. Clark) California Test Bureau 1933-1951. These tests are very similar to the 1943 edition of the Progressive Achievement Series. The author designed the test batteries for four grade levels: primary (grades 1-3 and low 4), elementary (grades 4-6), intermediate (grades 7-9), and advanced grades (grades 9-14).

2. General Educational Development Tests. (Examination staff of United States Armed Forces Institute) American Council on Education, distributed by Educational Testing Service, 1944-1945.

3. Iowa Every-Pupil Tests of Basic Skills. (Prepared under the direction of E. F. Lindquist) Houghton Mifflin, 1940-1947, New Edition, Elementary (grades 3-5) and Advanced (grades 5.5-9) Batteries; Science Research Assocites, through special arrangements with Houghton Mifflin, 1949, Advanced Battery.

4. Iowa Tests of Educational Development. (Prepared under the direction of E. F. Lindquist) Science Research Associates, 1942-1948.

5. Metropolitan Achievement Tests. (R. Allen, H. Bixler, W. Connor, F. Graham and G. Hildreth) World Book Company, 1931-1951. In this comprehensive battery there are five levels of tests for grades 1-9.5. Through analysis of textbooks and courses of study, the authors have made an effort to discover what the schools teach so that they may evaluate this subject matter. In the fourth-level test (grades 5-7.5), for example, there are tests in reading, English, usage and vocabulary, arithmetic fundamentals and problems, literature, history, geography, science, and spelling. Present tests follow the same general pattern of the original tests. They stress the mastery of subject matter rather than ability to apply it in solving problems.[19]

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[19] Ohlsen, op. cit., pp. 190-201.

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